



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,217	05/04/2007	Torsten Ziser	CH-8231/RC-234	4986
34947	7590	11/13/2009	EXAMINER	
LANXESS CORPORATION 111 RIDC PARK WEST DRIVE PITTSBURGH, PA 15275-1112				SALVITTI, MICHAEL A
ART UNIT		PAPER NUMBER		
1796				
MAIL DATE		DELIVERY MODE		
11/13/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,217	ZISER ET AL.	
	Examiner	Art Unit	
	MICHAEL A. SALVITTI	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 October 2009.
 2a) This action is **FINAL**. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-25,37,38,40 and 41 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-25,37,38,40 and 41 is/are rejected.
 7) Claim(s) 5, 9, 23, 38 is/are objected to.
 8) Claim(s) 1-25,37,38,40 and 41 are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>03/26/2007, 02/18/2009</u> .	5) <input type="checkbox"/> Notice of Informal Patent Application
	6) <input type="checkbox"/> Other: _____ .

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I (claims 1-25 and 37-38) in the reply filed on October 2nd, 2009 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

No claims have been withdrawn from further consideration pursuant to 37 CFR 1.142(b). Claims 40-41 have been added to Group I. Claims 26-36 and 39 have been cancelled. Claims 1-25, 37-38 and 40-41 are pending.

Claim Objections

Claim 5 is objected to because of the following informalities: The formula is stated to give a percent in the claim, but does not specify percent in the formula.

Claims 9 and 23: Applicant is advised that should claim 9 be found allowable, claim 23 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim 38 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

Art Unit: 1796

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 is drawn to a composition of matter; claim 38 is directed to an article/arrangement comprising the composition of claim 1. Thus the limitations of claim 38 fail to further limit the scope of the composition of matter (claim 1), on which claim 38 is dependent.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-25, 37-38 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,399,706 to *Obrecht et al.* Supporting evidence is provided by *Chen et al.* J. Chem. Eng. Data, **2005**, 50, pp. 1991-1994.

Regarding claims 1-3: Obrecht teaches a composition comprising:

(A) at least one crosslinkable organic medium (hydroxymethyl methacrylate. HEMA; Example 2, col. 8). HEMA has a viscosity of 3.181 mPas at 45°C (*Chen* Table 4, first row). Although *Chen* does not list the viscosity of HEMA at 120°C, the trend clearly shows decreasing viscosity with increasing temperature; furthermore a person having ordinary skill in the art knows liquids tend to become less viscous at higher

Art Unit: 1796

temperatures (MPEP § 2144.03). This suggests that the HEMA viscosity is well below 1,000 mPas at 120°C.

(B) at least one microgel (SBR microgel; Example 2, col. 8). The preparation of the microgel (Example 2, col. 8-9) uses no high-energy radiation.

Regarding claim 4: *Obrecht* teaches that the microgel comprises latex particles with a diameter (col. 7, lines 53-60); this implies approximately spherical geometry.

Regarding claim 5: The latex particles of *Obrecht* have a diameter d_{10} of 50 nm, and a d_{80} of 60 nm. $(60-50)/50 \times 100 = 20\%$ (col. 7, lines 55-60).

Regarding claims 6-7: *Obrecht* teaches average particle diameters of 56 nm (col. 7, lines 55-60).

Regarding claims 8-9: *Obrecht* teaches that the microgels are insoluble in toluene, and have a swelling ratio of 1-10 (col. 3, lines 5-10).

Regarding claim 10: *Obrecht* teaches a T_g of -57°C (col. 7, line 60).

Regarding claim 11: *Obrecht* teaches the composition of claim 1 containing at least one microgel (B), as set forth above.

Obrecht does not teach the microgels as having a breadth of glass transition temperature range of greater than about 5°C. This property is held to be inherent for the following reasons:

The instant specification recites that the breadth of glass transition temperatures greater than 5 to greater than 20°C is resultant from non-homogeneous polymerization, the result of avoiding radiation-induced crosslinking (page 9, lines 3-15). *Obrecht* does

Art Unit: 1796

not utilize radiation crosslinking, suggesting that the gel is non-homogeneously crosslinked and therefore has this property.

Furthermore, the preparative examples of *Obrecht* and the instant application are analogous: Both references teach crosslinking with dicumyl peroxide on SBR particles in hydroxyl modified polymer (compare Example 1 in instant specification (page 30) with Example 2 of *Obrecht* (col. 8). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP § 2112.01.

Regarding claim 12: *Obrecht* teaches that the microgels (B) are obtainable by emulsion polymerization (col. 3, lines 15-17).

Regarding claims 13-14: *Obrecht* teaches the microgel as styrene-butadiene rubber (SBR; Example 1, col. 7). Styrene-butadiene rubber is a random copolymer.

Regarding claim 15: *Obrecht* teaches the microgel being modified by a functional group reactive towards carbon-carbon double bonds (dicumyl peroxide; i.e. peroxy O-O cleavage; col. 7, line 61).

Regarding claim 16: *Obrecht* teaches that the microgel (B) is crosslinkable by functional groups containing heteroatoms (e.g. dicumyl peroxide; col. 4, lines 1-27).

Regarding claim 17: *Obrecht* teaches a composition comprising 22% of microgel (B); col. 8, lines 35-40).

Regarding claim 18: *Obrecht* teaches the composition comprising 78% of the organic medium (A) (Example 2; calculated by subtraction of microgel).

Regarding claim 19: *Obrecht* teaches the addition of fillers and additives (e.g. di-t-butyl-p-cresol and salt; col. 9, lines 1-11).

Regarding claim 20: *Obrecht* teaches preparing the composition by mixing in a kneader (col. 11, line 31).

Regarding claim 21: *Obrecht* teaches the composition of claim 20, as set forth above.

Although *Obrecht* does not teach preparing the composition by means of a homogenizer, bead mill or the-roller mill, these methods of mixing achieve the same function, which is mixing the (A) and (B) components. Claim 21 is a product-by-process claim. The composition of *Obrecht* appears to be substantially identical to the claimed product of claim 21, as evident by anticipation of the above claims. “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP § 2112.01.

Regarding claim 22: *Obrecht* teaches the viscosity of the composition of claim 1 as being 54.7 (col. 11, lines 50-55). Although *Obrecht* is silent with respect to the method of DIN 53018, the composition of *Obrecht* appears to be substantially identical to the claimed product of claim 1, as evident by anticipation of the above claims. “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). See MPEP § 2112.01.

Regarding claim 23: *Obrecht* teaches that the microgels are insoluble in toluene, and have a swelling ratio of 1-10 (col. 3, lines 5-10).

Regarding claim 24: *Obrecht* teaches the microgel comprises a hydroxyl group (HEMA; Example 2, col. 8-9).

Regarding claim 25: *Obrecht* teaches the crosslinkable organic medium comprising at least one polyol (2,2-methylene-bis-(4-methyl-6-cyclohexylphenol (col. 8, line 66)).

Regarding claim 37: *Obrecht* teaches the composition of claim 1 obtained by mixing at least one crosslinkable organic medium (HEMA) and at least one microgel (SBR gel) thereby forming a mixture, followed by adding a crosslinker (p-menthane hydroperoxide/Triganox NT) (col. 8, lines 40-67).

Regarding claim 38: *Obrecht* teaches the composition of claim 1 (Example 2, col. 8). Triganox (crosslinker) is added in a spatially separated form (liquid; col. 8, lines 50-52).

Regarding claim 41: *Obrecht* teaches the composition of claim 37 as being mixed by a kneader (col. 11, line 31).

Claims 1-3 and 40 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2002/0123564 to *Obrecht et al.* (hereinafter *Obrecht '564*).

Regarding claims 1-3: *Obrecht '564* teaches a composition comprising at least one crosslinkable organic medium having a viscosity less than 1,000 mPas at 120°C

(hydroxymethyl acrylate) and at least one microgel that is not crosslinked by means of high-energy radiation (Baystal SBR/hydroxymethyl acrylate).

Regarding claim 40: *Obrecht* '564 teaches an embodiment wherein the composition comprises at least one polyol (poly-HEMA/SBR gel) and at least one polyisocyanate crosslinker (Example 2, Table 1 uses Desmodur N® 100, see ¶ [0030]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,399,706 to *Obrecht et al.* in view of U.S. Patent No. 6,136,923 to *Cheung et al.* This is an alternative rejection to the rejection set forth above.

Regarding claim 11: *Obrecht* teaches the composition of claim 1, as set forth above.

Obrecht does not explicitly state that the composition has a breadth of glass transition temperature greater than about 5°C. *Cheung* teaches that the breadth of glass transition temperature is controlled by varying plasticizer concentration (col. 2, lines 40-45). *Cheung* shows numerous examples of compositions having a breadth of T_g greater than 5°C (*Cheung* see e.g. Example 1, Table 3; ~17°C breadth), and states that a large ΔT_g is desirable for applications (*Cheung* col. 2, line 45-51). *Obrecht* and

Cheung are analogous art in that they are drawn to the same field of endeavor, namely thermoplastic resin compositions utilizing crosslinked elastomers as impact modifiers.

At the time of the invention, it would have been obvious to a person having ordinary skill in the art to optimize the breadth of T_g for the microgel of *Obrecht*, as taught by *Cheung*, with the motivation of imparting vibration dampening properties (*Cheung*, col. 2, line 50).

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. SALVITTI whose telephone number is (571)270-7341. The examiner can normally be reached on Monday-Thursday 8AM-7PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Eashoo/
Supervisory Patent Examiner, Art Unit 1796

/M. A. S./
Examiner, Art Unit 1796